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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/621,377	07/18/2003	Wladyslaw Skarbek	1906-0118P	4062

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EXAMINER

STREGE, JOHN B

ART UNIT	PAPER NUMBER
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2624

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	02/20/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 02/20/2007.

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Office Action Summary

Application No.

10/621,377

Applicant(s)

SKARBET ET AL.

Examiner

John B. Strege

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 July 2003 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>9/29/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 17-19 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims 17-19 have not been further treated on the merits.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the data elements" in lines 4-5. There is insufficient antecedent basis for this limitation in the claim. The claims 2-23 are rejected based on their dependency of claim 1. This is a rejection because it obscures the meaning of the claim, it is uncertain where these data elements come from and what their relationship is to the first data distribution or the original data distribution. For examination purposes the examiner will assume that these are data elements (note these elements need not correspond in any way to the distribution of line 1 or the first distribution). Note also that there is also a disparity in the wording of the claim in that it mentions a data distribution and then mentions a first data distribution derived from the

Art Unit: 2624

data distribution. However if the first data distribution is derived from a data distribution, then it is clearly not the first distribution. Examiner requests that the applicant carefully reviews the claim language in order to clarify what is being claimed.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 22 is rejected under 35 U.S.C. 101 because claim 22 defines a computer program embodying functional descriptive material. However, the claim does not define a computer-readable medium or memory and is thus non-statutory for that reason (i.e., "When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized" – Guidelines Annex IV). That is, the scope of the presently claimed computer program can range from paper on which the program is written, to a program simply contemplated and memorized by a person. The examiner suggests amending the claim to embody the program on "computer-readable medium" or equivalent in order to make the claim statutory. Any amendment to the claim should be commensurate with its corresponding disclosure.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claim 1-7,11,15-16, and 20-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Suchard et al. USPN 6,661,908 (hereinafter "Suchard").

Suchard discloses a method of representing a data distribution (signature) derived from an object or image by processing signals corresponding to the object or image (signature sampling col. 10 lines 30-42), the method comprising recursively deriving an approximate representation of a first data distribution derived from said data distribution (col. 7 lines 5-28) and analyzing the errors of data elements as a second distribution when expressed in terms of the approximate representation (col. 9 lines 40-65, the abnormal deviation is read as the errors of data elements).

Regarding claim 2, the data elements are made up of high dimensional vectors and the approximate representation is of smaller subspaces of the signature (col. 7 lines 5-28).

Regarding claim 3, the subspace is derived using principal component analysis (col. 7 line 57 – col. 8 line 6).

Art Unit: 2624

Regarding claims 4-5, the analysis of the errors involves clustering using a membership function (col. 8 line 7- col. 9 line 19).

Regarding claims 6-7, the analysis of the errors involves principal component analysis for each cluster to produce a subspace representative of each cluster (col. 7 line 57-col. 9 line 19).

Claim 11 is similarly analyzed to claim 1.

Regarding claim 15, the data is derived from an image of a signature.

Regarding claim 16, the signature is left by a person thus it corresponds to a person.

Claim 20 is similarly analyzed to claim 1.

Regarding claim 21, Suchard discloses an object input means (see figure 2).

Claims 22-23 are similarly analyzed to claim 1.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 8-10, and 12-14 rejected under 35 U.S.C. 103(a) as being unpatentable over Suchard in view of Srivastava et al. USPN 6,563,952 (hereinafter "Srivastava").

As discussed above Suchard discloses all of the limitations of claim 7. Suchard does not explicitly disclose analyzing the deviations to produce a tree structure with a

top node and nodes corresponding to the error clusters. However it is well known to produce a tree structure when classifying high dimensional data.

Srivastava discloses such a method for the classification of high dimensional data (col. 1 lines 5-10). Srivastava discloses that there is a problem with classification of high dimensional data sets in that it is complex to build a data tree (col. 1 lines 57-65). To overcome this problem Srivastava discloses determining which itemsets are large itemsets, and then using large itemsets as additional attributes on which a tree node's splitting criterion might be based (col. 2 lines 1-30). This allows for increased accuracy in the decision structure.

Suchard and Srivastava are analogous art because they are from the same field of endeavor of classifying high dimensional data.

At the time of the invention it would have been obvious to one of ordinary skill in the art to combine Suchard and Srivastava to produce a tree structure with a top node and nodes corresponding to the error clusters. The motivation for doing so would be to allow for increased accuracy in the decision structure. Thus it would have been obvious to one of ordinary skill in the art to combine Suchard and Srivastava to obtain the invention of claim 8.

Regarding claim 9 Srivastava discloses stopping the repeating step for a given cluster depending on the error values (col. 4 lines 16-61).

Regarding claim 10 Srivastava discloses extending the model using new data to add new nodes to the tree (col. 4 lines 16-61).

Claim 12 is similarly analyzed to claim 8.

Art Unit: 2624

Regarding claims 13-14 Srivastava discloses using a membership value representing the degree to which the data element corresponds to a node and quantizing the membership values (col. 4 lines 16-61).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

USPN 5,561,718 Classifying faces.

Contact Information


Any inquiry concerning this communication or earlier communications from the examiner should be directed to John B. Strege whose telephone number is (571) 272-7457. The examiner can normally be reached on Monday-Friday between the hours of 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (571) 272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2624

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Js


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